

CLAIMS

1. A method for the providing of a plant belonging to the Brassica family with elevated levels of anticarcinogenic glucosinolates, comprising:

- a) providing a cultivated Brassica oleracea plant with elevated levels of anticarcinogenic glucosinolates in the edible parts of the Brassica oleracea plant;
- a) the use of the Brassica oleracea plant provided under a) as the starting material for the breeding of Brassica varieties with elevated levels of anticarcinogenic glucosinolates, wherein the anticarcinogenic glucosinolates comprise at least glucoiberin (3-methylsulphinypropyl glucosinolate (3MSPG)) and/or glucoraphanin (4-methylsulphinybutyl glucosinolate (4MSBG)), and wherein the concentration of 3MSPG per 100 gram of fresh weight of the edible part is greater than 100 micromol and the concentration of 4MSBG per 100 gram of fresh weight of the edible part is greater than 50 micromol.

2. The method according to claim 1, wherein the concentration of 3MSPG per 100 gram of fresh weight of the edible part is greater than 280 micromol.

3. The method according to claim 1 or claim 2, wherein the concentration of 3MSPG per 100 gram of fresh weight of the edible part is greater than 390 micromol.

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4. The method according to claim 1, claim 2 or claim 3, wherein the concentration of 3MSPG per 100 gram of fresh weight of the edible part is greater than 790 micromol.

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5. The method according to claim 1, wherein the concentration of 4MSBG per 100 gram of fresh weight of the edible part is greater than 120 micromol.

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6. The method according to claim 5, wherein the concentration of 4MSBG per 100 gram of fresh weight of the edible part is greater than 140 micromol.

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7. The method according to any of the claims 1-6, wherein the cultivated Brassica oleracea plant is broccoli sprout (Brassica oleracea convar. botrytis var. asparagoides).

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8. The method according to claim 7, wherein the broccoli sprout (Brassica oleracea convar. botrytis var. asparagoides) variety is Bordeaux.

9. The method according to any of the claims 1-6, wherein the cultivated Brassica oleracea plant is

Savoy cabbage (Brassica oleracea convar. capitata var. sabauda).

10. The method according to claim 9, wherein the Savoy
5 cabbage (Brassica oleracea convar. capitata var. sabauda) variety is Wirosa.
11. The method according to any of the claims 1-6,
wherein the cultivated Brassica oleracea plant is
10 broccoli (Brassica oleracea convar. botrytis var. cymosa).
12. The method according to claim 11, wherein the
broccoli (Brassica oleracea convar. botrytis var.
15 cymosa) variety is Belstar or Coronado.
13. The method according to claims 1-12, wherein the
plant belonging to the Brassica family is selected
from the group consisting of cauliflower or romanesco
20 (Brassica oleracea convar. botrytis var. botrytis);
broccoli (Brassica oleracea convar. botrytis var. cymosa);
broccoli sprout (Brassica oleracea convar. botrytis var. asparagoides);
Brussels sprouts (Brassica oleracea convar. oleracea var. gemmifera);
25 white cabbage or oxheart cabbage (Brassica oleracea
convar. capitata var. alba); red cabbage (Brassica
oleracea convar. capitata var. rubra); Savoy cabbage
(Brassica oleracea convar. capitata var. sabauda);
kohlrabi (Brassica oleracea convar. acephala var.
30 gongyloides); kale (Brassica oleracea convar.

acephala var. sabellica); and Portuguese cabbage
(Brassica oleracea var. trunchuda syn. costata).

- 5 14. A plant belonging to the Brassica family obtainable
by the method of any of claims 1-13.
15. Seeds of a plant belonging to the Brassica family
obtainable by the method of any of claims 1-13.
- 10 16. Parts of a plant belonging to the Brassica family
obtainable the method of any of claims 1-13.
- 15 17. The use of the plant, seeds or parts of a plant
according to one of claims 14-16 for the preparation
of a food product and/or pharmaceutical composition
for prophylaxis and/or treatment of cancer.